

REMARKS

Claims 1 to 20 are now pending.

It is respectfully submitted that all of the presently pending claims are allowable, and reconsideration of the present application is respectfully requested.

Applicants thank the Examiner for withdrawing the rejections of claims 15 to 20 under 35 U.S.C. § 101.

Claims 1 to 20 were rejected under 35 U.S.C. § 103(a) as obvious over the combination of U.S. Patent No. 5,706,278 (the "Robillard" reference) and that which the Office Action refers to as "Applicant's Admitted Prior Art" ("AAPA"). Without addressing or agreeing with this characterization of any of Applicants' disclosure as constituting an admission of prior art, it is respectfully submitted, for the purposes of this response, that the combination of the "Robillard" reference and AAPA does not render unpatentable any of the present claims for at least the following reasons.

As regards the obviousness rejections of the claims, to reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 1 relates to a method of exchanging data between at least two users that are interconnected over a bus system. Claim 1 provides for transmitting the data as event-oriented data as long as a preselectable latency is ensured for each message to be transmitted, and "if, and conditional upon that, the preselectable latency . . . is not ensured for each message to be transmitted, transmitting the data . . . according to a deterministic operation."

As explained in Applicants' Responses, dated March 13, 2006 and November 16, 2006 -- and as the Office Action admits, while the "Robillard" reference may refer to a combination of a time-slot allocation protocol (referred to by the Final Office Action as assertedly disclosing the deterministic operation) and a contention-based protocol (referred to

by the Office as assertedly disclosing the transmission of data as event-oriented data), any review of the “Robillard” reference makes plain that the time-slot allocation protocol is used for all transmissions. It is not used “conditional upon” a preselectable latency not being ensured. In this regard, the “Robillard” reference states that a plurality of time slots are generated in which all messages are transmitted. For each node that transmits critical messages, one or more time slots are assigned to the node for transmitting the critical messages. An additional time slot is provided that is not assigned to any particular node, and during which non-critical messages of all nodes are transmitted. (Column 3, lines 36 to 62.)

Thus, the time-slot allocation protocol is used for all data transmissions, and the use of the time-slot allocation protocol is not conditional upon a preselectable latency not being ensured. Further, the contention-based protocol (referred to by the Office as assertedly disclosing the transmission of data as event-oriented data) is not used in the “Robillard” reference for “as long as a preselectable latency is ensured for each message to be transmitted,” as provided for in the context of claim 1. Instead, the contention-based protocol is used in the “Robillard” reference only in a predetermined time slot. As soon as the time-slot has passed, the contention-based protocol is terminated, even if a preselectable latency is ensured for each message to be transmitted.

The Office Action asserts that the “AAPA,” (in particular, Applicants’ Specification, page 3, line 28 to page 4, line 3) corrects these deficiencies of the “Robillard” reference because it “discloses utilizing deterministic operation in an event-oriented communication system.” Final Office Action, page 3. However, as explained in Applicants’ Response, dated November 16, 2006, at issue is not a deficiency in the “Robillard” reference as to a failure to disclose a combination of deterministic operation with an event-oriented communication system is not the issue. Instead, at issue are the critical deficiencies of the “Robillard” reference in its failure to disclose such a combination, where data is transmitted as event-oriented data as a function of a capacity utilization of a bus system for as long as a preselectable latency is ensured for each message to be transmitted and where the data is transmitted according to the deterministic operation conditional upon the preselectable latency not being ensured.

It is respectfully submitted that the AAPA does not correct these deficiencies of the “Robillard” reference. The cited section of the AAPA, (as with the “Robillard” reference) provides for a time-controlled protocol that includes one time slot in which messages may be transmitted on an event-controlled basis. Thus, the cited section of AAPA

only refers to a time-slot allocation protocol regardless of whether a preselectable latency is ensured.

That is, the time-slot allocation of the cited section of AAPA is not used “conditional upon” a preselectable latency not being ensured. Instead, as with the “Robillard” reference, the cited section of AAPA provides that the time-controlled protocol is used for all transmissions and not “conditional upon that” a preselectable latency is not ensured. In this regard, AAPA states that the overall protocol is a time-controlled protocol, and that a subset of a plurality of time ranges of the time-controlled protocol is reserved for event-controlled message transmissions.

Accordingly, as the feature of “if, and conditional upon that, the preselectable latency elapsing between transmission request by the one of the users and the effected transmission operation of the one of the users is not ensured for each message to be transmitted, transmitting the data over the bus system according to a deterministic operation,” as provided for in the context of claim 1, the AAPA does not cure the critical deficiencies of the “Robillard” reference.

Further, as with the “Robillard” reference, the cited section of AAPA provides for termination of the event-controlled protocol as soon as an allotted time slot has passed. That is, the event-controlled protocol is not used “as long as a preselectable latency is ensured for each message to be transmitted,” as provided in the context of claim 1. Instead, as with the “Robillard” reference, the cited section of the AAPA provides that the event-controlled protocol is used only in a predetermined time range. As soon as the predetermined time range has passed, the event-controlled protocol is terminated, even if a preselectable latency is ensured for each message to be transmitted.

Accordingly, as to the feature of “transmitting the data as event-oriented data over the bus system, as long as a preselectable latency elapsing between a transmission request by one of the users and an effected transmission operation of the one of the users is ensured for each message to be transmitted,” as provided for in the context of claim 1, the AAPA does not cure the critical deficiencies of the “Robillard” reference.

In the “Response to Arguments” section, the Final Office Action states that “[t]he ‘event-controlled basis’ in ‘certain reserved time ranges’ (see Specification, page 3, lines 28-32) are interpreted as the ‘condition’ as claimed.” Final Office Action, page 11. This argument is not understood for the following reasons.

First, the condition, to which is referred (*i.e.*, that a present time is within certain reserved time ranges, is a condition for transmitting messages on an event-controlled basis) is not a condition for “transmitting the data over the bus system according to a deterministic operation.” Indeed, the cited section of the AAPA does not disclose or suggest a condition for transmitting data according to a deterministic operation. Instead, as explained above, the cited section of AAPA explicitly provides for use of a time-controlled protocol at all times.

Second, the Office wholly ignores the substance of the condition of claim 1. The condition of the cited section of the AAPA to which the Office refers is that a present time is within certain reserved time ranges. This condition does not disclose or suggest a condition that “the preselectable latency elapsing between the transmission request by the one of the users and the effected transmission operation of the one of the users is not ensured for each message to be transmitted.” Thus, even if satisfaction of the condition of the AAPA to which the Office refers would have been described by the AAPA as a prerequisite for transmitting messages according to a deterministic operation (which it has not as explained above), the cited section would still not disclose or suggest “if, and conditional upon that, the preselectable latency elapsing between the transmission request by the one of the users and the effected transmission operation of the one of the users is not ensured for each message to be transmitted, transmitting the data over the bus system according to a deterministic operation,” as provided for in the context of claim 1.

Accordingly, even if the “Robillard” reference is modified to include features of the AAPA, the resulting system does not disclose or suggest all of the features of claim 1.

Thus, the combination of the “Robillard” reference and AAPA does not disclose or even suggest all of the features of claim 1, as presented, so that claim 1 is allowable.

Claims 11, 12, and 15 include subject matter like that of claim 1 and are therefore allowable for the same reasons as claim 1.

Claims 2 to 10, and 19 ultimately depend from claim 1 and are therefore allowable for the same reasons as claim 1. Claim 20 depends from claim 11 and is therefore allowable for the same reasons as claim 11. Claims 13 and 14 depend from claim 12 and are therefore allowable for the same reasons as claim 12. Claims 16 to 18 ultimately depend from claim 15 and are therefore allowable for the same reasons as claim 15.

It is therefore respectfully requested that the obviousness rejections of claims 1 to 20 be withdrawn.

Accordingly, claims 1 to 20 are allowable.

Conclusion

In view of the foregoing, it is respectfully submitted that all of claims 1 to 20 are allowable. It is therefore respectfully requested that the rejections be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

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Respectfully submitted,

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